
The digitisation and commercial licensing of local television news as a model for preservation and access: A case study

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Abstract Since 2014, the Special Collections Department of the University of North Texas Libraries (UNTL) has worked to digitise over 60 years' worth of historical film and video and provide online digital access to news programming that was originally broadcast under the name WBAP-TV, and later NBC 5/KXAS-TV. Revenue from commercial licensing is expected to contribute an increasingly significant percentage of the funding needed to make the collection fully digitally accessible. This paper looks briefly at the history of the NBC5 news collection and examines the workflows required to prepare film and video for digitisation, perform quality control on digital files, and apply metadata keywords and content description to make footage easier for easily filmmakers to discover online. The paper will also discuss the licensing workflows in place at UNTL and how footage has been licensed for use in a variety of projects.

KEYWORDS: news film, videotape, digitisation, digital workflows, commercial licensing, special collections

INTRODUCTION

The NBC 5/KXAS News Collection came to the University of North Texas Libraries (UNTLL) in 2013 when NBC5 announced that it would be donating three decades of historical news film to the Special Collections.¹ The following year, NBC5 added its entire video library to the archive at UNTLL, contributing another three decades of footage to the collection. Since then, UNTLL has been working to permanently preserve as well as digitise the film, video, still photos and broadcast scripts through the library's digital preservation network. As this content is digitised, it is made publicly available, at no cost to users, through the Portal to Texas History.²

NBC5, known previously as WBAP-TV, was established in 1948 and was the first local television station in Texas as well as the Southwest.³ The earliest surviving daily news film in the collection is on black-and-white 16-mm film from 1951. Thousands of the film reels that were donated from the 1950s through the 1970s offer a moving picture history that relates to events happening across Texas at the time, with an emphasis on the Dallas/Fort Worth metropolitan area. 'The Texas News' programme from WBAP-TV was the first television news show created for North Texas. During the early 1950s, a day's broadcast for 'The Texas News' consisted of a small number of stories that focused on events relevant to the Dallas-Fort Worth region, including local sports, politics, crime and human-interest stories. Beginning in the mid-1970s 16-mm film was phased out of use and video was introduced as the primary recording medium for news packages. Video formats found in the news archive include U-matic, Beta Cam, BetaSP, DV Cam and DVC Pro. The archive contains footage spanning the period 1951–2014, and a short sizzle reel describing the project was produced in 2018.⁴

As part of the agreement to transfer the NBC5 archive to UNTLL, NBC5 granted UNTLL the rights to license and collect 100

per cent of the licensing revenue needed to further the digitisation of the collection. Licensing revenue and contributions from private foundations has so far allowed UNTLL to digitise approximately one-fifth of the archive. It is estimated that the total project will cost over US\$3m. Once the collection is fully digitised, UNTLL and NBC5 will share licensing revenue with a 50 per cent profit share.

DIGITAL ACCESS TO NEWS CONTENT

Providing public access to the news content from the NBC5 collection has delivered many challenges, such as working with extremely fragile materials and dealing with large quantities of film. The number of stories created and broadcast by the station increased in the 1960s through the mid-1970s, resulting in a larger number of archival materials from this time period. The station began broadcasting news by splicing together the film that was shot daily by the station's photographers. A month of news film could result in anywhere between 150– and 200 news stories. On an average day, six to ten news stories were broadcast.

Due to the fragile condition of the original film and video contained within the NBC5 collection, the University of North Texas' Digital Library and its partner, the Portal to Texas History, provide access to digital copies only. For a long time, the selection of content to digitise was based on patrons' requests to access specific news stories of interest. UNTLL does not have the equipment to necessary to digitise large batches of film, and therefore uses an outside vendor to provide its digitisation service. Historically, this entailed sending the vendor a week's worth of news content in a single batch — partly because this made better use of internal resources, and partly because it made it more likely that the patron would still receive their desired news story in the event that the dates were off a day or two. Digitisation was funded by the patron

requesting access to the content, with the department funding the remaining week that was also sent. This model proved ineffective due to the *ad hoc* nature of the weeks being digitised, and it was therefore decided to digitise months of film at a time in sequential order.

To ensure maximum tracking and safe transfer of the archival materials through digitisation, an efficient digitisation workflow has been established. Before sending the film reels for digitisation, a master log spreadsheet is created, to compile information for keeping track of the film and videos removed from storage. In addition, the master log contains information on what has been digitised to prevent future duplication, as well as all relevant information gathered in relation to the film and videos, include their housing box numbers, barcodes, date ranges, number of reels, reel length and unique identifiers (UIDs), the latter being created by UNTL staff. The master log is forwarded to the vendor so that they can easily identify the materials shipped to them, as well as provide the digital files with the correct UIDs.

Unique identifiers are comprised of a series of codes and numbers, and are used to help identify digitised materials within a collection. All digitised materials from UNT Special Collections have a UID that begins with the code UNTA, with the next set of numbers being the collection number. The NBC5 collection number is AR0776. An example of an existing UID comes from the first film reel within the NBC5 collection, dated 13th April, 1951:

UNTA_AR0776-663400-1951-04-13

The UNT Special Collections code and collection number are followed by the numbers 663400, representing the individual reel's barcode, 1951 is the year of the televised news content, and 04 and 13 represent the month and day of the airdate. When the film reels are sent for digitisation,

UNTL requests that the vendor name all digital files with the unique identifiers. News files are segmented to include sequential numbers at the end of the UID to differentiate the news content that aired first in a news day from the news story that aired last. The creation of these complex UIDs allows faculty and staff to track digital materials on the back-end of the portal if a patron or researcher requests access to materials that may already be digitised but not yet publicly available. Unique identifiers also separate collections from one another, which allows for narrowing down searches for materials by collection, dates and resource types.

During the first phase of the NBC5 digitisation project, the Special Collections Department included hyperlinks in the master log to digital images of the corresponding news scripts. The department requested that all film files should be segmented in length to match the scripts that were already publicly available online, thanks to the prior and ongoing digitisation efforts of the NBC5/KXAS News Scripts Collection. Creating a direct link between the film footage and broadcast script was especially significant because the majority of the film from the 1950s through the 1960s is silent, and the scripts contain important contextual information which would have originally been read live on the air.

All digital film files are uploaded as singular segmented news stories rather than entire film reels. This allows for better searchability by patrons and researchers, as well as for better content and keyword description. The digital files may require a lot of post-editing before they are presentable. For example, if a news story has accidentally been split, clips will need to be merged before the file is ingested into the digital repository. Indeed, when quality-checking the digital files returned from the vendor, it is not uncommon to find bits of one news story appearing multiple times throughout a digitised reel of film.

Such errors occur because the digitisation process is too time-consuming for the vendor to use the broadcast scripts to help with segmentation of the film. The vendor often receives thousands of feet of film at a time, and the digitisation effort alone is time-consuming without taking into account these additional steps. In an updated process, the vendor now relies on a film's swish-pan and slate cards to identify when one story should end and a new story should begin. Early news photographers would use a swish-pan — a movement when the camera pans very quickly, resulting in blurred, streaky video — to signify the end of a news story. Unfortunately, they would sometimes also use a swish-pan to signify a location change within the same story, which has caused some mistakes in the segmentation process. Relying on guesswork and visual cues is hardly perfect, but it is the quickest method available.

Once the vendor has digitised multiple months of film, the digital files are all sent on 5TB hard drives to the Special Collection and transferred onto the media server to begin the quality-checking (QC) process. The files are received back as two multimedia container formats — MP4 and MKV — as well as in both segmented and unsegmented formats. Staff members watch the MP4 deliverables of the digitised film for sound and image quality during the film QC process. The process also requires staff members to view corresponding broadcast scripts to match script cues with visual cues in the film. This ensures that a news story has been segmented correctly and the digital file can be moved forward to be ingested online for public access. If a news story has not been segmented correctly, or pieces of the story are scattered throughout the reel, the staff members create a QC spreadsheet marking all the film clips by their UIDs and noting the reasons they need to be corrected. This spreadsheet is returned to the vendor and corrections are made thereafter, and updated files returned. For one instance, the clip named

UNTA_AR0776-663400-1951-11-02-06

needed to be separated into multiple parts as it contained two different news stories which were not segmented correctly by the vendor. The staff members noted that this file needed to be segmented at the 00:30 second mark, and that the second news clip should be renamed 1951-11-02-09. Occasionally, film corrections are more complex and require unique merging. For example, clip 1951-11-06-03 needed to be separated at 00:36 seconds and combined at the beginning of clip 1951-11-06-04 as they were the same news story, just segmented improperly.

Each digital file receives the same treatment during the QC process: a Special Collections staff member watches the entire clip and makes notes about where segmentation errors should be corrected. This ensures the highest quality of footage available on the digital repository. An entire month's worth of film will undergo QC before the spreadsheet of corrections is sent back to the vendor. The digital files that are ready to be ingested onto UNT's Digital Library and the Portal to Texas History are moved forward through a chain of command on the Special Collection's media server. Only the MKV container files are ingested online as they are the highest quality preservation format, and the MP4 container files are discarded once the QC process is complete.

As digital files are received back from the vendor, they are offloaded from the hard drives onto the media server and into a folder titled 'Pending QC'. The quality-checking of all film files occurs within this folder to separate film that has already been reviewed. Following QC, the digital files that need corrections from the vendor are moved forward into a folder titled 'Pending Revision' to keep track of materials that have not yet been ingested online (Figure 1). Digital files that are repository ready are moved forward into a folder titled 'Pending Ingest', where nesting folders titled

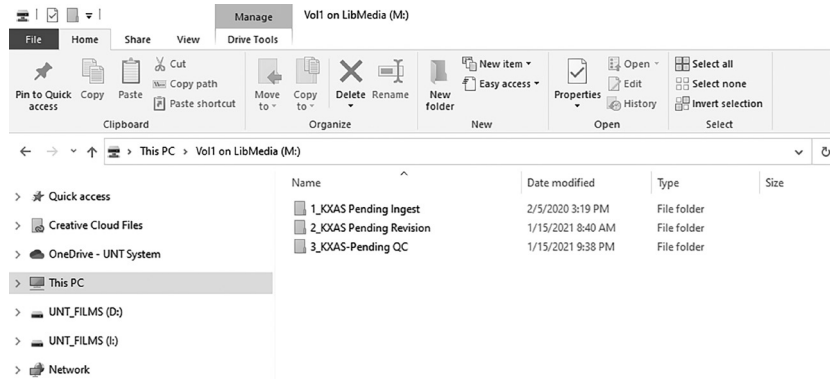


Figure 1: Separation of video media separated by quality-checked statuses

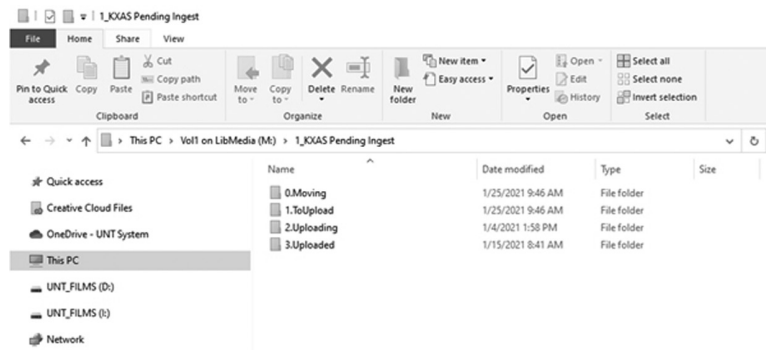


Figure 2: Pending ingestion of video media separated by completion status

0.Moving, 1.ToUpload, 2.Uploading and 3.Uploaded are waiting (Figure 2).

In the 0.Moving folder, which contains digital film files that are ready to be ingested online, there is an XML template labelled 'super_metadata'. XML (Extensible Markup Language) is a set of rules for encoding documents in a format that is both human-readable and machine-readable. Special Collections staff members use XML templates to attach necessary information about the digital files that will appear online. For the NBC5 collection, the information that is included in the 'super metadata' for all digital film files is the collections' content creator and publisher. The film reels created in the 1950s through the mid-1970s will have their creator and publisher listed as WBAP-TV television news station in the following format: 'WBAP-TV (Television

station : Fort Worth, Tex.)' in the XML file (Figure 3). In 1974, WBAP was sold to LIN Broadcasting and became known as KXAS-TV. All video footage from 1975 and onward list the creator and publisher as 'KXAS-TV (Television station : Fort Worth, Tex.)'.

The creator and publisher of the NBC5 materials are always included in the 'super metadata' XML template file, as well as the rights licence, rights holder and rights statement. All materials from the NBC5 collection are copyrighted, with the rights holders being NBC5. All XML templates must incorporate the following rights statement when made accessible to the public: 'Materials in this collection may be licensed for reproduction or publication, according to the policies of the UNT Libraries' Special Collections Department.

```

<?xml version="1.0" encoding="UTF-8"?>
<metadata>
  <title qualifier="officialtitle">[News Clip: ]</title>
  <creator qualifier="pro">
    <name>WBAP-TV (Television station : Fort Worth, Tex.)</name>
    <type>org</type>
  </creator>
  <contributor qualifier="pro"/>
  <publisher>
    <name>WBAP-TV (Television station : Fort Worth, Tex.)</name>
  </publisher>

```

Figure 3: Example super_metadata XML

Restrictions may apply'. The rights statement allows researchers and patrons who wish to use the materials in publications and televised media to contact the department to draw up a licence agreement. The remainder of the XML template is left intentionally blank until the digital materials have been ingested online and a student assistant will begin applying metadata.

As staff members of Special Collections are required to watch each film for QC purposes, they also use this viewing time to record descriptive metadata as a process known as 'pre-metadata'. Staff record pre-metadata information about each news clip into a spreadsheet separate from the film segmentation spreadsheet (Figure 4). Each month of film has its own metadata spreadsheet, and each day of the month has its own tab within the spreadsheet. On each broadcast day tab, all the segmented video clips have their own column, separated by their UIDs, and fields to record appropriate metadata information. The information that is recorded from the film clip and news scripts includes the titles, named individuals and coverage locations. Staff then create keywords and content description to assist in the searchability of the materials online. Keywords are standardised as plural unless the keyword is a proper noun. There is no limit on the number of subjects/keywords that can be applied, but they should describe what the item is 'about', and answer the questions: who, what, where and when. All records for the Portal to Texas History must have at least

one subject string from UNTL's Browse Structure (UNTL-BS), which are subjects or topics that succinctly describe the content of the resource.

Taking down pre-metadata information before the film clips are ingested online decreases the amount of time spent recording descriptive metadata for film after the QC process. Were pre-metadata not recorded during this process, the film would need to be watched again once it has been ingested online for the actual metadata process. Even if a clip has been segmented improperly, pre-metadata information is recorded as though the film clip is whole and complete. This is so that when all the corrected files have been returned from the vendor the metadata are readily available for student assistants to work on them.

The spreadsheet is divided into multiple sections and colour-coordinated to allow staff and student assistants to understand the division of information. In addition, it shows which fields the information will be entered into upon the film's ingestion into the Portal to Texas History. General keywords are kept in all lowercase text, while the Universities' Library Browse Structure (UNTL-BS) subject strings are inputted into the workbook as they would appear online. 'Named persons' refers to people who are significant in some way to the content of the resource, and the names are inverted to read as last, first middle. From the provided example, one of the named persons from the news clip 'College prexy' is President

1	UNTA_AR0776-663400-1951-05-01-01	UNTA_AR0776-663400-1951-05-01-02
Title	[News Clip: College prexy]	[News Clip: Shrine parade]
Title Card	College Prexy	
Date	1951-05-01	1951-05-01
Time		
Keywords		
	Education - Colleges and Universities	Religion - Temples
	Government and Law - Politics - Speeches	Social Life and Customs - Clubs and Organizations
	Texas State College for Women	Social Life and Customs - Customs - Parades
	inaugurations	shriners
	presidents	Arts and Crafts - Music - Marching Bands
	Education - Colleges and Universities - Texas Woman's University	parade floats
	Hubbard Hall	
	luncheons	
	speeches	
	woman's equality	
	Education - Commencement	
	ceremonies	
Named Persons		
	Guinn, Dr. John A.	
	Douglas, Mrs. Emily Taft	
	Fletcher, Mrs. Carney B.	
	Campbell, Dr. Doak	
Place Names	Denton	Fort Worth
Place Point		

Figure 4: Pre-metadata for segmented film clips

Dr John A. Guinn. In the workbook, his name is input as Guinn, Dr John A, as known titles are included before the first name.

At present, two student assistants are helping one full-time employee (FTE) to QC the film and create pre-metadata information. The FTE must become an 'expert' in NBC5 and Texas history, becoming familiar with notable local political figures, reporters, coverage locations and events of the time period. At the beginning of the project, only the FTE was QC'ing the film and recording pre-metadata information, which they would pass onto the student assistants to enter online. To assist in the pre-metadata phase, the FTE created reference resources to help identify individuals who reoccurred throughout news scripts and the film footage. These reference resources are essential for students who now assist in the QC/pre-metadata process. For example, in the scripts, notable figures are identified by their surname only, but the resources created help student assistants identify mayors, judges, governors and other key figures in Dallas, Fort Worth and surrounding local areas. Providing these extra resources for the student assistants improves the accuracy

of the pre-metadata information they enter for the footage, thereby increasing online searchability, and saves time as they do not need to perform extended research for each news story. Without spending the time and care for each news story and providing appropriate keywords/subjects, these resources could be considered lost among the masses of other materials that are accessible online. Thanks to the diligence of the student assistants within the department, patrons film makers and other licensors can find the resources for their queries.

By utilising the above model for providing access to the NBC5 collection, the Special Collections Department has been able to create a searchable library of 70,000 news segments, which has become a valuable source of archival footage. Archival footage research is dependent on access not only to footage, but also descriptive metadata to make discoverable. The revenue from licensing projects in turn has been able to provide funding for student employees to work on the collection, the continuation of future NBC5 digitisation projects and the purchase of new equipment.

FOOTAGE LICENSING

Footage licensing involves an agreement between the university and production company stating that the licensee has permission to use footage from the NBC5 collection, typically for a fee. The licence agreement includes the archival material licensed, description of the licensee's project, the release status of the project (commercial or non-commercial), usage (television, over-the-top, advertising, personal or internal use), distribution (theatrical, broadcast), market (US, USA and Canada, worldwide, throughout the universe), duration (in perpetuity or limited duration) and the licensing fee. A licence agreement is specific to a project and is a binding legal agreement between the footage licensee and the University of North Texas.

Licensing interactions typically occur in one of two ways: with an enquiry regarding footage that has yet to be digitised, or with an enquiry regarding footage that has already been digitised and can be viewed online. In the event that footage has not been digitised, filmmakers have access to digitised broadcast scripts and logbooks that provide some idea as to the content that might be available. The ability to search scripts and log books electronically, combined with a reasonable estimation of the date during which the footage would have aired, allows the archivists to determine quickly whether the archive may contain relevant footage. To view footage that is still in an analogue format, filmmakers are provided with an invoice for digitisation costs, with the understanding that the footage they seek may or may not be on the film reel or tape which is being digitised, and that digitisation fees are separate from licensing fees. If the footage is found during digitisation, the filmmaker is provided with MP4 screeners via a file-sharing service. Special pricing is available for rush orders if footage is needed before the usual 4–6-week time period allowed for digitisation requests. The UNT Libraries website includes a frequently asked questions page for footage researchers.⁵

All footage digitised through the 'on-demand' process goes through the same pre-digitisation, quality control, ingest and metadata processes as the larger, ongoing digitisation efforts. Once the filmmaker has received their screeners, that footage will eventually be discoverable online. Although this adds time to the front end of a digitisation request, it is well worth it as footage digitised for one project can easily be reused in another project at a later time.

For requests for footage that has already been digitised, the licensing process usually begins with the delivery of screeners via a file-sharing service. There is no limit to the number of screeners that may be requested, and there is no cost for screeners. Large orders for screeners may take several weeks to fulfil.

In recent years, there has been a significant increase in demand for unscripted documentaries and docu-series, fuelled by competition between streaming services and traditional broadcast outlets, as well as overall growing interest in the documentary medium. Documentary programming has allowed broadcasters such as CNN and ESPN to expand the types of programming they traditionally offer, and cable broadcasters now create original documentary programming alongside news and sporting events. Access to archival footage plays a large part in the ability of filmmakers to produce quality programming that will be engaging for viewers.

Licensing projects at UNTL have reflected a diverse array of subjects from a large number of producers working for both broadcast and streaming services. The majority of licensing projects have been with US producers, with an increasing number coming from Europe and Japan.

Licensing rates are based upon the use requested and are quoted on a per second basis. There is a 30-second minimum on licensing requests. This ensures that the revenue from licensing is enough to cover the staff time necessary to process

the request, such as time spent locating footage, delivering screeners, coming to terms of an agreement, invoicing and collecting payment. Licensing rates have increased over time as demand for footage has increased. For the fiscal year ending in 2019, licensing revenue was over US\$119,000. Although many projects were put on hold in 2020 due to COVID-19, there has already been a sharp increase in the number of licensing agreements being signed in 2021.

UNTL has contributed footage to many projects over the past three years. The following is an abbreviated list of programmes in which footage from the NBC5 collection may be found:

- *Non-theatrical series and features:*
 - ‘Diabolical’ Season 2, Investigation Discovery Network;
 - ‘The Bush Years’ (6 part series), CNN;
 - ‘Darlie Routier’, 20/20 Documentary Event Special, ABC Network;
 - ‘McMillions’, docu-series, Piece of Work Productions for HBO;
 - ‘Peyton’s Place’, NFL Productions;
 - ‘The Road I’m On’ (Garth Brooks Documentary), A&E;
 - ‘W’, four-hour series for PBS American Experience;
 - ‘LANCE’, two-hour film for ESPN;
 - ‘BOSS: The African-American Experience in Business’, PBS;
 - ‘The Von Erich Family’, Vice Media;
 - ‘The Crimes that Changed Us’, Investigation Discovery;
 - ‘Snapped’, Oxygen Network;
 - ‘Street Gang: How We Got to Sesame Street’, HBO;
 - ‘Julia’ (Julia Child documentary), Storyville Films;
 - ‘The Confession Killer’, Netflix;
 - ‘Delorean’, BBC and Netflix;
 - ‘The Lady and the Dale’, HBO.
- *Feature-length theatrical releases:*
 - ‘AKA Jane Roe’, Isotope Films;
 - ‘Minari’, A24;

- ‘Dorothy and Ted’, Golden Seal Productions;
- ‘David Crosby: Remember My Name’, PCH Films;
- ‘Daughters of the Sexual Revolution’, Spindletop Films.

Although the projects in which archival news footage appear are national and international in scope, the most lucrative projects from a licensing perspective are those which feature a person or event with a strong connection to the north Texas region and which are more unique to the collection. For example, even though the UNTL has no game footage, there is ample coverage of the Dallas Cowboys in the collection. For example, footage of Superbowl parades, interviews with players and coaches, news about player trades and even news about Cowboys players charged with criminal offences have been used in a variety of projects. Other footage has been licensed multiple times for different projects on the same topic. For example, footage from the Branch Davidian compound siege in Waco in 1993 and footage from the arrest and trial of Darlie Routier, who was convicted of killing her children in 1996, have been used by different producers for different projects.

Finding footage to match a request can be a difficult process, but it is infinitely easier through the use of consistent metadata. In about one-quarter of licensing requests, the researcher is seeking footage to illustrate a theme or time period unrelated to a specific news event. Someone may need footage of women working in offices in the 1980s for a documentary on women in the workplace, or may need footage of people driving in the 1950s for a documentary on the history of driving. Faceted searching that allows a user to select a decade and to keyword-search within that decade has been key to fulfilling these types of requests.

Archival footage has also been licensed for use in dramatic and theatrical productions, such as for scenes where characters are

viewing television news. Archival news footage may be licensed to be used on the television screen the actors are viewing in the film. Footage licensing also includes use of audio-only for podcasts. Podcasting has also seen an increase in the demand for archival content used in true crime and other history-based programmes.

Part of the agreement between UNT and NBC5 includes a clause to allow for the library to waive licensing fees at its discretion. Because of this, fees are often waived for non-profit uses, such as student film projects, community recognition events and incorporation into education projects such as learning modules developed through the Digital Public Library of America.

CONCLUSION

Documentary films are an increasingly essential means through which people view and understand history. Documentary films tell under-reported stories and help viewers see the past in the context of the present. The NBC5 news archive is a tremendous source of archival footage, much of which has been incorporated into significant works by some of the genre's top producers. Preserving this original footage and getting it to the filmmakers who need it has been a part of the mission of UNTL since 2014. A commercial licensing model has been successful in digitising and creating metadata for over 70,000 news segments.

This process helps to ensure funding for the continuance of the project, but also provides free access to stream historical footage through the Portal to Texas History, where it can be used by students, scholars and teachers around the world. Over the past seven years, there have been 2.6 million page views for content in the NBC5 digital collection, which is further evidence of the value of this work. It is hoped that licensing revenue will continue to make up a portion of the project funding so that work is able to continue. The project is expected to be complete, with all materials digitised and available online, in 10–15 years.

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